Chronic Hepatitis C in California
2013 Executive Summary

In 2013, the burden of notifiable chronic hepatitis C in California continued to be substantial but decreasing when compared to the prior four years.[1] In this summary, we describe changes in chronic hepatitis C burden over time, including demographic and geographic characteristics of newly reported chronic hepatitis C cases, to inform efforts to reduce viral hepatitis transmission, and limit the progression and implications of viral hepatitis-related liver disease.

With 24,268 newly reported cases[2] of chronic hepatitis C in 2013, California ranked first among all states that published their surveillance data.[3,4]

SUMMARY

From 1994 to 2013, 550,056 chronic hepatitis C cases were newly reported to the California Department of Public Health (CDPH). In 2013, CDPH received 24,268 new reports of chronic hepatitis C infections. The rate of newly reported chronic hepatitis C infection in California decreased 48 percent between 2009 and 2013, from 121.4 to 63.3 per 100,000 population. However, chronic hepatitis C remained one of the most frequently reported communicable diseases. Important disparities in the gender, age, racial, and geographic distribution of chronic hepatitis C infections persisted.

Fifty-four percent of all newly reported chronic hepatitis C cases in 2013 were among persons born during the years 1945-1965, a birth cohort known as baby boomers. Males ages 55-64—an age group within the baby boomer cohort—had the highest rates of newly reported chronic hepatitis C in 2013. White, African-American/Black, and American Indian/Alaska Native persons in the general population remained disproportionately affected by chronic hepatitis C in 2013. Rates of newly reported chronic hepatitis C infection remained high in the northern and central regions of California, as well as in several Bay Area jurisdictions, and increased by 10 percent or more in five rural counties.

Nearly 13 percent of all newly reported chronic hepatitis C cases in California were reported from state prisons in 2013. The rate of newly reported chronic hepatitis C infection increased 26 percent among males ages 18-24 incarcerated in state prisons between 2009 and 2013, from 2,024.4 to 2,555.1 per 100,000 population. Notably, the median age of persons with newly reported chronic hepatitis C infection in state prisons decreased 7 years between 2009 and

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[1] Tables: www.cdph.ca.gov/programs/pages/viralhepatitisdata.aspx
Graphs: www.cdph.ca.gov/programs/pages/viralhepatitisdata.aspx

[2] A person who is being reported to CDPH for the first time and who meets the CDC/CSTE case definition for chronic hepatitis C. For more information, see Technical Notes.

[3] Seventeen states gave the Centers for Disease Control and Prevention permission to publish their 2013 chronic hepatitis C case data

[4] Chronic Hepatitis C: http://www.cdc.gov/hepatitis/statistics/2013surveillance/index.htm#tabs-801919-3

2013, from 42 to 35. Hispanic/Latino and White persons in state prisons remained disproportionately affected by chronic hepatitis C.

DISCUSSION

More than half of all newly reported chronic hepatitis C cases in 2013 were among persons born during 1945-1965, and males ages 55-64—an age group within the baby boomer cohort—had the highest rates of newly reported chronic hepatitis C. These findings support recommendations by the Centers for Disease Control and Prevention (CDC) and U.S. Preventive Services Task Force for one-time screening in this birth cohort, and underscore the potential benefits of targeting this birth cohort for testing and linkage to care efforts.

The overall decrease in statewide rates of newly reported chronic hepatitis C infection between 2009 and 2013 may be due to a number of factors. These factors include: (1) the possibility that most prevalent infections have already been reported;[5] (2) improvements in deduplication methods used to maintain the chronic hepatitis C registry; and (3) the reduction in the state prison population by 27,400 persons between October 2011 and September 2012 due to implementation of the California Public Safety Realignment initiative,[6] which may have resulted in fewer reported cases statewide because people who would have been tested for hepatitis C in state prisons were instead incarcerated in county jails, which typically do not offer hepatitis C testing, or were living in community settings, where they may have had limited access to care.

The geographic distribution of chronic hepatitis C infection in more rural areas in California stands in marked contrast to the distribution of human immunodeficiency virus (HIV) infection, which is concentrated in large urban areas. The exact reasons for the geographic distribution of chronic hepatitis C infections and increased rates in selected rural jurisdictions in California are not well understood, and may be due to a variety of factors, including likely differences in: (1) the distribution of people with higher risk factors for chronic hepatitis C infection among local health jurisdictions (i.e., age, race/ethnicity, blood transfusion history, and injection drug use history, potentially including among persons recently transitioning to injection drug use from oral use of prescription opioids); and (2) access to hepatitis C prevention services, including syringe exchange and opioid substitution therapy.

While rates of newly reported hepatitis C infection declined overall in California between 2009 and 2013, there were important differences among age groups. All age groups experienced decreases statewide, except for persons ages 18-24, among whom rate remained stable. However, these trends differed considerably among 18-24 year old males incarcerated in state prisons, among whom rates of newly reported hepatitis C infection increased 26 percent from 2009 to 2013. This finding is consistent with CDPH surveillance data from previous years,[7] and

[5] The percentage of duplicate chronic hepatitis C reports received by CDPH plateaued at 87 percent since 2011.
[6] Assembly Bill 109 (Budget Committee, Chapter 15, Statutes of 2011) and Assembly Bill 117 (Budget Committee, Chapter 39, Statutes of 2011)
[7] Chronic Hepatitis B and Hepatitis C Infections in California: Cases Newly Reported through 2011. California

may be due to a number of factors. These factors include: (1) potential increases in injection drug use, and related hepatitis C infections, among young persons in the state overall and/or in state prisons; (2) changes in the distribution of hepatitis C risk factors among people who are incarcerated in state prisons versus local jails; and (3) changes in testing practices in state prisons.

The occurrence of chronic hepatitis C infections among persons aged less than 30 years is most likely due to sharing of injection drug use equipment. Persons in California who inject drugs are more likely to be out of care and thus more likely to be undiagnosed and unreported, except when they are incarcerated in state prisons. The recent increase in newly reported hepatitis C infection among incarcerated males ages 18-24 raises questions as to whether California could see increases in hepatitis C among non-incarcerated youth similar to those seen in other states[8,9] and indicates the potential benefit of targeting prevention efforts at young persons who inject drugs in community[10] and correctional settings.[11]

KEY FINDINGS: CHRONIC HEPATITIS C IN CALIFORNIA (INCLUDING STATE PRISONS)

Overall

- In 2013, CDPH received 24,268 new reports of chronic hepatitis C infections. The rate of newly reported chronic hepatitis C infection decreased 48 percent since 2009, from 121.4 to 63.3 per 100,000 population.
- From 1994 to 2013, 550,056 chronic hepatitis C cases were newly reported to the California Department of Public Health (CDPH).

By Gender

- From 2009 to 2013, nearly two-thirds (64 percent) of newly reported chronic hepatitis C cases in California were among males, and males had approximately twice the rate of newly reported chronic hepatitis C infection of females.

By Age

- Fifty-four percent of newly reported chronic hepatitis C cases in California in 2013 were among persons born during the years 1945-1965.

Department of Public Health, Sexually Transmitted Diseases (STD) Control Branch, November 2013.

[8] Centers for Disease Control and Prevention. Hepatitis C Virus Infection Among Adolescents and Young Adults — Massachusetts, 2002–2009. *MMWR*. May 6, 2011 / 60(17); 537-41.

[9] Centers for Disease Control and Prevention. Increases in Hepatitis C Virus Infection Related to Injection Drug Use Among Persons Aged ≤30 Years — Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012. *MMWR*. May 8, 2015 / 64(17);453-458.

[10] Centers for Disease Control and Prevention. Integrated Prevention Services for HIV Infection, Viral Hepatitis, Sexually Transmitted Diseases, and Tuberculosis for Persons Who Use Drugs Illicitly: Summary Guidance from CDC and the U.S. Department of Health and Human Services. *MMWR*. November 9, 2012 / 61(RR05);1-40.

[11] Centers for Disease Control and Prevention. Prevention and Control of Infections with Hepatitis Viruses in Correctional Settings. *MMWR*. January 24, 2003 / 52(RR01);1-33.

- In 2013, persons ages 55-64—an age group within the baby boomer cohort—had the highest rate of newly reported chronic hepatitis C infections among all age groups, and rates among males ages 55-64 were nearly double rates among females in the same age group.
- Between 2009 and 2013, the age distribution of newly reported chronic hepatitis C cases shifted from a unimodal age distribution in 2009 to a bimodal age distribution in 2013, with young persons—particularly males ages 18-24—composing a higher proportion of newly reported chronic hepatitis C infections.
- From 2009 to 2013, rates of newly reported chronic hepatitis C infection decreased consistently across all age groups except for persons ages 18-24, in which rates remained relatively stable, showing a 1-2 percent increase since 2009.

By Race/Ethnicity

- White, African American/Black, and American Indian/Alaska Native persons in California continued to be disproportionately affected by chronic hepatitis C in 2013: Whites represented 40 percent of the general population in California, but 59 percent of newly reported chronic hepatitis C cases; African Americans/Blacks represented 6 percent of the general population in California, but 12 percent of newly reported chronic hepatitis C cases; and American Indian/Alaska Natives were 0.5 percent of the general population but nearly 2 percent of newly reported chronic hepatitis C cases.
- In 2013, Hispanics/Latinos and Asian Pacific Islanders (APIs) were underrepresented among chronic hepatitis C cases in California. Hispanics were nearly 40 percent of the general population, but only 22 percent of reported chronic hepatitis C cases, and APIs were 14 percent of the state population, but only 5 percent of reported chronic hepatitis C cases.
- From 2009 to 2013, the proportion of newly reported chronic hepatitis C cases who were Hispanic/Latino decreased from 31 to 22 percent, and the proportion of reported cases who were White increased from 51 to 59 percent.

By Geography

- Among local health jurisdictions with population $\geq$100,000, Humboldt county had the highest rates of newly reported chronic hepatitis C cases in California in 2013, followed by San Francisco, Sacramento, Shasta, and Sonoma counties. The top five jurisdictions had higher rates of newly reported chronic hepatitis C infection than the statewide rate, as did Berkeley City, and Butte, Kern, Santa Cruz, Napa, San Luis Obispo, Long Beach City, Stanislaus, Imperial, and Alameda counties. Together, the top five local health jurisdictions with population $\geq$100,000 accounted for 13 percent (n=3,255) of all newly reported chronic hepatitis C cases in 2013.
- Among local health jurisdictions with population <100,000, Siskiyou County had the highest rate of newly reported chronic hepatitis C infection in California in 2013, followed by Mendocino, Plumas, Lassen, and Modoc counties. These top five jurisdictions had higher

rates of newly reported chronic hepatitis C infection than the statewide rate, as did Tuolumne, Tehama, Sutter, Inyo, Lake, Del Norte, Nevada, Mariposa, Glenn, Yuba, Trinity, and Calaveras counties. Together, the top five local jurisdictions with population <100,000 accounted for 1 percent (n=265) of newly reported chronic hepatitis C cases in 2013.

- From 2009 to 2013, notable increases in rates of newly reported chronic hepatitis C infection occurred primarily in rural jurisdictions in California, including Plumas (95 percent), Lassen (82 percent), Glenn (66 percent), Siskiyou (21 percent), and Tuolumne (10 percent) counties.

KEY FINDINGS: CHRONIC HEPATITIS C IN CALIFORNIA STATE PRISONS

Overall

- In 2013, CDPH received 3,101 new reports of chronic hepatitis C infections in state prison facilities. The rate of newly reported chronic hepatitis C infection in state prisons decreased 53 percent since 2009, from 5,369.8 to 2,519.2 per 100,000 population.
- Nearly 13 percent of all newly reported chronic hepatitis C cases in California in 2013 were reported from state prisons.
- From 1994 to 2013, 68,977 chronic hepatitis C cases in California prisons were newly reported to CDPH.

By Gender

- From 2009 to 2013, the vast majority (94 percent) of newly reported chronic hepatitis C cases in California state prisons were among males, which corresponded to the gender distribution of people incarcerated in California state prisons. Rates of newly reported chronic hepatitis C infection in state prisons did not differ by gender to the same extent as rates differed by gender in the state overall.

By Age

- In 2013, 19 percent of newly reported chronic hepatitis C cases in California state prisons were among persons born during the years 1945-1965.
- Males aged 18-34 incarcerated in state prisons composed nearly half (45 percent) of all cases reported among males in their age group statewide in 2013.
- In 2009, the highest rate of newly reported chronic hepatitis C cases in state prisons occurred among persons 45-54 years of age, regardless of gender. Since 2012, males ages 25-34 have had the highest rate of newly reported chronic hepatitis C among persons incarcerated in state prisons.
- Among males ages 18-24 incarcerated in state prisons, rates of newly reported chronic hepatitis C infection increased 26 percent between 2009 and 2013, from 2,024.4 to 2,555.1 per 100,000 population.

- Statewide, the median age of persons with newly reported chronic hepatitis C infection in state prisons decreased 7 years between 2009 and 2013, from 42 to 35.

By Race/Ethnicity

- In 2013, Hispanic/Latino and White persons continued to be disproportionately affected by chronic hepatitis C in state prisons. Hispanics/Latinos represented 42 percent of the population in state prisons, but 49 percent of reported chronic hepatitis C cases, and Whites represented 25 percent of the population in state prisons, but 39 percent of reported chronic hepatitis C cases. In contrast, African Americans/Blacks were underrepresented among chronic hepatitis C cases in state prisons, making up 31 percent of the state prison population, but only 10 percent of reported chronic hepatitis C cases. From 2009 to 2013, the proportion of newly reported chronic hepatitis C cases in state prisons who were Hispanic/Latino increased slightly, from 47 percent to 49 percent.